CLAIMS:

1. A monitor comprising:

a first sensor which senses a magnitude of power being consumed by a site facility, said site facility comprising at least one main panel bus, at least one external power line electrically connecting said at least one main panel bus to at least one external power source, at least one energy-producing system having at least one energy-producing system bus, at least one first internal power line electrically connecting said at least one main panel bus to said at least one energy-producing system bus, at least one critical load sub-panel bus, at least one second internal power line electrically connecting said at least one energy-producing system bus to said at least one critical load sub-panel bus;

said first sensor comprising at least one first sub-sensor and at least one second sub-sensor;

said first sub-sensor sensing a current passing through said at least one external power line;

said second sub-sensor sensing a net current passing through a combination comprising said at least one first internal power line and said at least one second internal power line; and

a second sensor which senses a magnitude of power being produced by said at least one energy-producing system;

said second sensor comprising at least one third sub-sensor, said third sub-sensor sensing said net current passing through said combination comprising said at least one first internal power line and said at least one second internal power line.

2. A monitor as recited in claim 1, wherein:

said first sub-sensor comprises at least a first transformer positioned around said at least one external power line;

said second sub-sensor comprises at least a second transformer positioned around said at least one first internal power line and said at least one second internal power line; and

said third sub-sensor comprises at least a third transformer positioned around said at least one first internal power line and said at least one second internal power line.

3. A monitor as recited in claim 2, wherein:

said first transformer produces a first signal having a voltage which is proportional to said current passing through said at least one external power line;

said second transformer produces a second signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one first internal power line and said at least one second internal power line; and

said third transformer produces a third signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one first internal power line and said at least one second internal power line;

said monitor further comprises at least one line voltage line which carries a line voltage signal having a voltage which is proportional to a voltage flowing through said at least one external power line, said at least one first internal power line and said at least one second internal power line; and

said monitor further comprises at least one transducer, said at least one transducer comprising at least one circuit in which at least said first transformer and said second transformer are connected in series.

4. A monitor as recited in claim 3, further comprising a display device comprising at least one site facility consumption display area in which an indication of said magnitude of power being consumed by said site facility is displayed, and at least one energy-producing system production display area in which an indication of said magnitude of power being produced by said at least one energy-producing system is displayed.

5. A monitor as recited in claim 4, wherein said at least one transducer sends to said display device a first series of electronic pulses and a second series of electronic pulses, said first series of electronic pulses having a frequency which is indicative of said magnitude of power being consumed by said site facility, and said second series of electronic pulses having a frequency which is indicative of said magnitude of power being produced by said at least one energy-producing system.

6. A monitor as recited in claim 3, further comprising a display device comprising at least one site facility consumption display area in which an indication of energy consumed by said site facility over a period of time is displayed, and at least one energy-producing system production display area in which an indication of energy produced by said at least one energy-producing system over a period of time is displayed.

7. A monitor as recited in claim 6, wherein said at least one transducer sends to said display device a first series of electronic pulses and a second series of electronic pulses, a quantity of pulses in said first series of electronic pulses over a period of time being indicative of a quantity of energy consumed by said site facility over said period of time, and a quantity of pulses in said second series of electronic pulses over said period of time being indicative of a quantity of energy produced by said at least one energy-producing system in said period of time.

8. A monitor as recited in claim 6, wherein said display device further comprises a first reset button which, when pressed, resets to zero said energy consumed by said site facility over a period of time, and a second reset button which, when pressed, resets to zero said energy produced by said energy-producing system over a period of time.

9. A monitor as recited in claim 3, further comprising a display device comprising at least one site facility consumption display area and at least one energy-producing system production display area,

said display device further comprising a first switch which, when pressed, toggles between a setting where an indication of said magnitude of power being consumed by said site facility is displayed in said site facility consumption display area and a setting where an indication of energy consumed by said site facility over a period of time is displayed in said site facility consumption display area; and

said display device further comprising a second switch which, when pressed, toggles between a setting where an indication of said magnitude of power being produced by said energy-producing system is displayed in said energy-producing system production display area and a setting where an indication of energy produced by said energy-producing system over a period of

time is displayed in said energy-producing system production display area.

10. A monitor as recited in claim 9, wherein said at least one transducer sends to said display device a first series of electronic pulses and a second series of electronic pulses, said first series of electronic pulses having a frequency which is indicative of said magnitude of power being consumed by said site facility, and said second series of electronic pulses having a frequency which is indicative of said magnitude of power being produced by said at least one energy-producing system.

11. A monitor as recited in claim 9, wherein said display device further comprises a first reset button which, when pressed, resets to zero said energy consumed by said site facility over a period of time, and a second reset button which, when pressed, resets to zero said energy produced by said energy-producing system over a period of time.

12. A monitor as recited in claim 1, further comprising a display device comprising at least one site facility consumption display area in which an indication of said magnitude of power being consumed by said site facility is displayed, and at least one energy-producing system production display area in which an indication of said magnitude of power being produced by said at least one energy-producing system is displayed.

13. A monitor as recited in claim 1, further comprising a display device comprising at least one site facility consumption display area in which an indication of energy consumed by said site facility over a period of time is displayed, and at least one energy-producing system production display area in which an indication of energy produced by said at least one energy-producing system over a period of time is displayed.

14. A monitor as recited in claim 13, wherein said display device further comprises a first reset button which, when pressed, resets to zero said energy consumed by said site facility over a period of time, and a second reset button which, when pressed, resets to zero said energy produced by said energy-producing system over a period of time.

15. A monitor as recited in claim 1, further comprising a display device comprising at least one site facility consumption display area and at least one energy-producing system production display area,

said display device further comprising a first switch which, when pressed, toggles between a setting where an indication of said magnitude of power being consumed by said site facility is displayed in said site facility consumption display area and a setting where an indication of energy consumed by said site facility over a period of time is displayed in said site facility consumption display area; and

said display device further comprising a second switch which, when pressed, toggles between a setting where an indication of said magnitude of power being produced by said energy-producing system is displayed in said energy-producing system production display area and a setting where an indication of energy produced by said energy-producing system over a period of time is displayed in said energy-producing system production display area.

16. A monitor as recited in claim 15, wherein said display device further comprises a first reset button which, when pressed, resets to zero said energy consumed by said site facility over a period of time, and a second reset button which, when pressed, resets to zero said energy produced by said energy-producing system over a period of time.

17. A monitor as recited in claim 1, further comprising at least a second external power line and at least a second main panel bus,

said second external power line electrically connecting said second main panel bus to at least one external power source;

said first sensor comprising at least one fourth sub-sensor, said at least one fourth sub-sensor sensing a current passing through said second external power line.

18. A monitor as recited in claim 17, wherein said fourth sub-sensor comprises a fourth transformer positioned around said second external power line.

19. A monitor as recited in claim 18, further comprising at least a second energy-producing system, at least a second critical load sub-panel bus, at least one third internal power line, and at least one fourth internal power line,

said third internal power line electrically connecting said second main panel bus to said second energy-producing system bus, said at least one fourth internal power line electrically connecting said second energy-producing system bus to said second critical load sub-panel bus.

20. A monitor as recited in claim 19, wherein:

said first sensor further comprises at least one fourth sub-sensor and at least one fifth sub-sensor, said at least one fourth sub-sensor sensing current passing through said second external power line, said at least one fifth sub-sensor sensing current passing through a combination comprising said at least one third internal power line and said at least one fourth internal power line;

said second sensor further comprises at least one sixth sub-sensor, said at least one sixth sub-sensor sensing current passing through said combination comprising said at least one third internal power line and said at least one fourth internal power line.

21. A monitor as recited in claim 20, wherein:

said first sub-sensor comprises at least a first transformer positioned around said at least one external power line;

said second sub-sensor comprises at least a second transformer positioned around said at least one first internal power line and said at least one second internal power line;

said third sub-sensor comprises at least a third transformer positioned around said at least one first internal power line and said at least one second internal power line;

said fourth sub-sensor comprises at least a fourth transformer positioned around said second external power line;

said fifth sub-sensor comprises at least a fifth transformer positioned around said at least one third internal power line and said at least one fourth internal power line;

said sixth sub-sensor comprises at least a sixth transformer positioned around said at least one third internal power line and said at least one fourth internal power line.

22. A monitor as recited in claim 21, wherein:

said first transformer produces a first signal having a voltage which is proportional to said current passing through said at least one external power line;

said second transformer produces a second signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one first internal power line and said at least one second internal power line;

said third transformer produces a third signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one first internal power line and said at least one second internal power line;

said fourth transformer produces a fourth signal having a voltage which is proportional to said current passing through said second external power line;

said fifth transformer produces a fifth signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one third internal power line and said at least one fourth internal power line; and

said sixth transformer produces a sixth signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one third internal power line and said at least one fourth internal power line;

said monitor further comprises at least one line voltage line which carries a line voltage signal having a voltage which is proportional to a voltage flowing through at least one line selected from the group consisting of said at least one external power line, said at least one first internal power line, said at least one second internal power line, said second external power line, said at least one third internal power line and said at least one fourth internal power line; and

said monitor further comprises at least one transducer, said at least one transducer comprising at least a first circuit in which at least said first transformer, said second transformer, said fourth transformer and said fifth transformer are connected in series and a second circuit in which at least said third transformer and said sixth transformer are connected in series.

23. A monitor as recited in claim 1, wherein said energy-producing system is a solar-electric system.

24. A monitor as recited in claim 1, further comprising a prediction sensor which predicts an estimated magnitude of power which should be being produced by said at least one energy-producing system under prevailing conditions.

25. A monitor as recited in claim 24, wherein said prediction sensor comprises:

a photovoltaic array comprising at least one power photovoltaic cell;

at least one reference photovoltaic cell; and

a thermistor network in parallel with said at least one reference photovoltaic cell, said thermistor network comprising at least one negative temperature coefficient thermistor, at least one parallel resistor in parallel with said thermistor, and at least one series resistor in series with said thermistor and said parallel resistor, said thermistor being positioned in or on said photovoltaic array.

26. A monitor as recited in claim 24, further comprising a device for comparing said estimated magnitude of power with said magnitude of power being produced by said at least one energy-producing system.

27. A monitor as recited in claim 26, further comprising at least one modem for transmitting data as a result of said comparing said estimated magnitude of power with said magnitude of power being produced by said at least one energy-producing system.

28. A monitor as recited in claim 1, further comprising a prediction sensor which predicts an estimated quantity of energy which should be being produced by said at least one energy-producing system under prevailing conditions.

29. A monitor as recited in claim 28, wherein said prediction sensor comprises:

a photovoltaic array comprising at least one power photovoltaic cell;

at least one reference photovoltaic cell; and

a thermistor network in parallel with said at least one reference photovoltaic cell, said thermistor network comprising at least one negative temperature coefficient thermistor, at least one

parallel resistor in parallel with said thermistor, and at least one series resistor in series with said thermistor and said parallel resistor, said thermistor being positioned in or on said photovoltaic array.

30. A monitor as recited in claim 28, further comprising a device for comparing said estimated quantity of energy with a quantity of energy actually produced by said at least one energy-producing system.

31. A monitor as recited in claim 30, further comprising at least one modem for transmitting data as a result of said quantity of energy with a quantity of energy actually produced by said at least one energy-producing system.

32. A facility comprising:

at least one main panel bus;

at least one external power line electrically connecting said at least one main panel bus to at least one external power source;

at least one energy-producing system having at least one energy-producing system bus;

at least one first internal power line electrically connecting said at least one main panel bus to said at least one energy-producing system bus;

at least one critical load sub-panel bus;

at least one second internal power line electrically connecting said at least one energy-producing system bus to said at least one critical load sub-panel bus;

a first sensor which senses a magnitude of power being consumed by said facility; and

a second sensor which senses a magnitude of power being produced by said at least one energy-producing system,

said first sensor comprising at least one first sub-sensor and at least one second sub-sensor;

said first sub-sensor sensing a current passing through said at least one external power line;

said second sub-sensor sensing a net current passing through a combination comprising said at least one first internal power line and said at least one second internal power line;

said second sensor comprising at least one third sub-sensor, said third sub-sensor sensing

said net current passing through said combination comprising said at least one first internal power line and said at least one second internal power line.

33. A facility as recited in claim 32, wherein:

said first sub-sensor comprises at least a first transformer positioned around said at least one external power line;

said second sub-sensor comprises at least a second transformer positioned around said at least one first internal power line and said at least one second internal power line; and

said third sub-sensor comprises at least a third transformer positioned around said at least one first internal power line and said at least one second internal power line.

34. A facility as recited in claim 33, wherein:

said first transformer produces a first signal having a voltage which is proportional to said current passing through said at least one external power line;

said second transformer produces a second signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one first internal power line and said at least one second internal power line; and

said third transformer produces a third signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one first internal power line and said at least one second internal power line;

said facility further comprises at least one line voltage line which carries a line voltage signal having a voltage which is proportional to a voltage flowing through said at least one external power line, said at least one first internal power line and said at least one second internal power line; and

said facility further comprises at least one transducer, said at least one transducer comprising at least one circuit in which at least said first transformer and said second transformer are connected in series.

35. A facility as recited in claim 34, further comprising a display device comprising at least one facility consumption display area in which an indication of said magnitude of power being consumed by said facility is displayed, and at least one energy-producing system production display

area in which an indication of said magnitude of power being produced by said at least one energy-producing system is displayed.

36. A facility as recited in claim 35, wherein said at least one transducer sends to said display device a first series of electronic pulses and a second series of electronic pulses, said first series of electronic pulses having a frequency which is indicative of said magnitude of power being consumed by said facility, and said second series of electronic pulses having a frequency which is indicative of said magnitude of power being produced by said at least one energy-producing system.

37. A facility as recited in claim 34, further comprising a display device comprising at least one facility consumption display area in which an indication of energy consumed by said facility over a period of time is displayed, and at least one energy-producing system production display area in which an indication of energy produced by said at least one energy-producing system over a period of time is displayed.

38. A facility as recited in claim 37, wherein said at least one transducer sends to said display device a first series of electronic pulses and a second series of electronic pulses, a quantity of pulses in said first series of electronic pulses over a period of time being indicative of a quantity of energy consumed by said facility over said period of time, and a quantity of pulses in said second series of electronic pulses over said period of time being indicative of a quantity of energy produced by said at least one energy-producing system in said period of time.

39. A facility as recited in claim 37, wherein said display device further comprises a first reset button which, when pressed, resets to zero said energy consumed by said facility over a period of time, and a second reset button which, when pressed, resets to zero said energy produced by said energy-producing system over a period of time.

40. A facility as recited in claim 34, further comprising a display device comprising at least one facility consumption display area and at least one energy-producing system production display

area,

said display device further comprising a first switch which, when pressed, toggles between a setting where an indication of said magnitude of power being consumed by said facility is displayed in said facility consumption display area and a setting where an indication of energy consumed by said facility over a period of time is displayed in said facility consumption display area; and

said display device further comprising a second switch which, when pressed, toggles between a setting where an indication of said magnitude of power being produced by said energy-producing system is displayed in said energy-producing system production display area and a setting where an indication of energy produced by said energy-producing system over a period of time is displayed in said energy-producing system production display area.

41. A facility as recited in claim 40, wherein said at least one transducer sends to said display device a first series of electronic pulses and a second series of electronic pulses, said first series of electronic pulses having a frequency which is indicative of said magnitude of power being consumed by said facility, and said second series of electronic pulses having a frequency which is indicative of said magnitude of power being produced by said at least one energy-producing system.

42. A facility as recited in claim 40, wherein said display device further comprises a first reset button which, when pressed, resets to zero said energy consumed by said facility over a period of time, and a second reset button which, when pressed, resets to zero said energy produced by said energy-producing system over a period of time.

43. A facility as recited in claim 32, further comprising a display device comprising at least one facility consumption display area in which an indication of said magnitude of power being consumed by said facility is displayed, and at least one energy-producing system production display area in which an indication of said magnitude of power being produced by said at least one energy-producing system is displayed.

44. A facility as recited in claim 32, further comprising a display device comprising at least one facility consumption display area in which an indication of energy consumed by said facility over a period of time is displayed, and at least one energy-producing system production display area in which an indication of energy produced by said at least one energy-producing system over a period of time is displayed.

45. A facility as recited in claim 44, wherein said display device further comprises a first reset button which, when pressed, resets to zero said energy consumed by said facility over a period of time, and a second reset button which, when pressed, resets to zero said energy produced by said energy-producing system over a period of time.

46. A facility as recited in claim 32, further comprising a display device comprising at least one facility consumption display area and at least one energy-producing system production display area,

said display device further comprising a first switch which, when pressed, toggles between a setting where an indication of said magnitude of power being consumed by said facility is displayed in said facility consumption display area and a setting where an indication of energy consumed by said facility over a period of time is displayed in said facility consumption display area; and

said display device further comprising a second switch which, when pressed, toggles between a setting where an indication of said magnitude of power being produced by said energy-producing system is displayed in said energy-producing system production display area and a setting where an indication of energy produced by said energy-producing system over a period of time is displayed in said energy-producing system production display area.

47. A facility as recited in claim 46, wherein said display device further comprises a first reset button which, when pressed, resets to zero said energy consumed by said facility over a period of time, and a second reset button which, when pressed, resets to zero said energy produced by said energy-producing system over a period of time.

48. A facility as recited in claim 32, further comprising at least a second external power line and at least a second main panel bus,

said second external power line electrically connecting said second main panel bus to at least one external power source;

said first sensor comprising at least one fourth sub-sensor, said at least one fourth sub-sensor sensing a current passing through said second external power line.

49. A facility as recited in claim 48, wherein said fourth sub-sensor comprises a fourth transformer positioned around said second external power line.

50. A facility as recited in claim 49, further comprising at least a second energy-producing system, at least a second critical load sub-panel bus, at least one third internal power line, and at least one fourth internal power line,

said third internal power line electrically connecting said second main panel bus to said second energy-producing system bus, said at least one fourth internal power line electrically connecting said second energy-producing system bus to said second critical load sub-panel bus.

51. A facility as recited in claim 50, wherein:

said first sensor further comprises at least one fourth sub-sensor and at least one fifth sub-sensor, said at least one fourth sub-sensor sensing current passing through said second external power line, said at least one fifth sub-sensor sensing current passing through a combination comprising said at least one third internal power line and said at least one fourth internal power line;

said second sensor further comprises at least one sixth sub-sensor, said at least one sixth sub-sensor sensing current passing through said combination comprising said at least one third internal power line and said at least one fourth internal power line.

52. A facility as recited in claim 51, wherein:

said first sub-sensor comprises at least a first transformer positioned around said at least one external power line;

said second sub-sensor comprises at least a second transformer positioned around said at

least one first internal power line and said at least one second internal power line;

said third sub-sensor comprises at least a third transformer positioned around said at least one first internal power line and said at least one second internal power line;

said fourth sub-sensor comprises at least a fourth transformer positioned around said second external power line;

said fifth sub-sensor comprises at least a fifth transformer positioned around said at least one third internal power line and said at least one fourth internal power line;

said sixth sub-sensor comprises at least a sixth transformer positioned around said at least one third internal power line and said at least one fourth internal power line.

53. A facility as recited in claim 52, wherein:

said first transformer produces a first signal having a voltage which is proportional to said current passing through said at least one external power line;

said second transformer produces a second signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one first internal power line and said at least one second internal power line;

said third transformer produces a third signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one first internal power line and said at least one second internal power line;

said fourth transformer produces a fourth signal having a voltage which is proportional to said current passing through said second external power line;

said fifth transformer produces a fifth signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one third internal power line and said at least one fourth internal power line;

said sixth transformer produces a sixth signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one third internal power line and said at least one fourth internal power line;

said facility further comprises at least one line voltage line which carries a line voltage signal having a voltage which is proportional to a voltage flowing through at least one line selected from the group consisting of said at least one external power line, said at least one first internal power line,

said at least one second internal power line, said second external power line, said at least one third internal power line and said at least one fourth internal power line; and

said facility further comprises at least one transducer, said at least one transducer comprising at least a first circuit in which at least said first transformer, said second transformer, said fourth transformer and said fifth transformer are connected in series and a second circuit in which at least said third transformer and said sixth transformer are connected in series.

54. A facility as recited in claim 32, wherein said energy-producing system is a solar-electric system.

55. A facility as recited in claim 32, further comprising a prediction sensor which predicts an estimated magnitude of power which should be being produced by said at least one energy-producing system under prevailing conditions.

56. A facility as recited in claim 55, wherein said prediction sensor comprises

a photovoltaic array comprising at least one power photovoltaic cell;

at least one reference photovoltaic cell; and

a thermistor network in parallel with said at least one reference photovoltaic cell, said thermistor network comprising at least one negative temperature coefficient thermistor, at least one parallel resistor in parallel with said thermistor, and at least one series resistor in series with said thermistor and said parallel resistor, said thermistor being positioned in or on said photovoltaic array.

57. A facility as recited in claim 55, further comprising a device for comparing said estimated magnitude of power with said magnitude of power being produced by said at least one energy-producing system.

58. A facility as recited in claim 57, further comprising at least one modem for transmitting data as a result of said comparing said estimated magnitude of power with said magnitude of power being produced by said at least one energy-producing system.

59. A facility as recited in claim 32, further comprising a prediction sensor which predicts an estimated quantity of energy which should be being produced by said at least one energy-producing system under prevailing conditions.

60. A facility as recited in claim 59, wherein said prediction sensor comprises

a photovoltaic array comprising at least one power photovoltaic cell;

at least one reference photovoltaic cell; and

a thermistor network in parallel with said at least one reference photovoltaic cell, said thermistor network comprising at least one negative temperature coefficient thermistor, at least one parallel resistor in parallel with said thermistor, and at least one series resistor in series with said thermistor and said parallel resistor, said thermistor being positioned in or on said photovoltaic array.

61. A facility as recited in claim 59, further comprising a device for comparing said estimated quantity of energy with a quantity of energy actually produced by said at least one energy-producing system.

62. A facility as recited in claim 61, further comprising at least one modem for transmitting data as a result of said comparing said estimated quantity of energy with a quantity of energy actually produced by said at least one energy-producing system.

63. A method of sensing power in a site facility, comprising:

sensing a magnitude of power being consumed by a site facility by:

sensing current passing through at least one external power line, said at least one external power line electrically connecting at least one main panel bus to at least one external power source, and

sensing net current passing through a combination comprising at least one first

internal power line and at least one second internal power line, said at least one first internal power line electrically connecting said at least one main panel bus to at least one energy-producing system bus, said at least one second internal power line electrically connecting said at least one energy-producing system bus to at least one critical load sub-panel bus; and

sensing a magnitude of power being produced by said at least one energy-producing system by:

sensing said net current passing through said combination comprising said at least one first internal power line and said at least one second internal power line.

64. A method as recited in claim 63, wherein:

said sensing current passing through at least one external power line is carried out by positioning at least a first transformer around said at least one external power line, such that said first transformer produces a first signal having a voltage which is proportional to said current passing through said at least one external power line;

said sensing net current passing through a combination comprising at least one first internal power line and at least one second internal power line is carried out by positioning at least a second transformer around said at least one first internal power line and said at least one second internal power line, such that said second transformer produces a second signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one first internal power line and said at least one second internal power line; and

said sensing a magnitude of power being produced by said at least one energy-producing system is carried out by positioning at least a third transformer around said at least one first internal power line and said at least one second internal power line, such that said third transformer produces a third signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one first internal power line and said at least one second internal power line;

and wherein said method further comprises:

sensing a voltage flowing through said at least one external power line, said at least one first internal power line and said at least one second internal power line; and

sensing a combined voltage of at least said first signal and said second signal.

65. A method as recited in claim 64, wherein said site facility further comprises at least a second external power line and at least a second main panel bus,

said second external power line electrically connecting said second main panel bus to at least one external power source;

said method further comprising sensing current passing through said second external power line.

66. A method as recited in claim 65, wherein said sensing current passing through said at least one external power line further comprises positioning at least a fourth transformer around said second external power line, such that said fourth transformer produces a fourth signal having a voltage which is proportional to said current passing through said second external power line.

67. A method as recited in claim 63, further comprising displaying said magnitude of power being consumed by said site facility in at least one site facility consumption display area; and displaying said magnitude of power being produced by said at least one energy-producing system in at least one energy-producing system production display area.

68. A method as recited in claim 63, further comprising generating a first series of electronic pulses and a second series of electronic pulses, said first series of electronic pulses having a frequency which is indicative of said magnitude of power being consumed by said site facility, and said second series of electronic pulses having a frequency which is indicative of said magnitude of power being produced by said at least one energy-producing system.

69. A method as recited in claim 63, further comprising displaying said quantity of energy being consumed by said site facility in at least one site facility consumption display area; and displaying said quantity of energy being produced by said at least one energy-producing system in at

least one energy-producing system production display area.

70. A method as recited in claim 63, further comprising generating a first series of electronic pulses and a second series of electronic pulses, a quantity of pulses in said first series of electronic pulses over a period of time being indicative of a quantity of energy consumed by said site facility over said period of time, and a quantity of pulses in said second series of electronic pulses over said period of time being indicative of a quantity of energy produced by said at least one energy-producing system in said period of time.

71. A method as recited in claim 66, wherein said site facility further comprises at least a second energy-producing system, at least a second critical load sub-panel bus, at least one third internal power line, and at least one fourth internal power line,

said sensing a magnitude of power being consumed by a site facility further comprises:

sensing current passing through said second external power line; and

sensing net current passing through a combination comprising said at least one third internal power line and said at least one fourth internal power line, said at least one third internal power line electrically connecting said second main panel bus to said second energy-producing system bus, said at least one fourth internal power line electrically connecting said second energy-producing system bus to said second critical load sub-panel bus; and

said sensing a magnitude of power being produced by said at least one energy-producing system further comprises:

sensing said net current passing through said combination comprising said at least one third internal power line and said at least one fourth internal power line.

72. A method as recited in claim 71, wherein:

said sensing current passing through said second external power line is carried out by positioning at least a fourth transformer around said second external power line, such that said fourth transformer produces a fourth signal having a voltage which is proportional to said current passing through said second external power line;

said sensing net current passing through a combination comprising said at least one third internal power line and said at least one fourth internal power line is carried out by positioning at least a fifth transformer around said at least one third internal power line and said at least one fourth internal power line, such that said fifth transformer produces a fifth signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one third internal power line and said at least one fourth internal power line;

said sensing said net current passing through said combination comprising said at least one third internal power line and said at least one fourth internal power line is carried out by positioning at least a sixth transformer around said at least one third internal power line and said at least one fourth internal power line, such that said sixth transformer produces a sixth signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one third internal power line and said at least one fourth internal power line; and

said sensing a combined voltage of at least said first signal and said second signal comprises sensing a combined voltage of at least said first signal, said second signal, said fourth signal and said fifth signal;

and wherein said method further comprises sensing a combined voltage of at least said third signal and said sixth signal.

73. A method as recited in claim 63, further comprising predicting an estimated magnitude of power which should be being produced by said at least one energy-producing system under prevailing conditions.

74. A method as recited in claim 73, further comprising comparing said estimated magnitude of power with said magnitude of power being produced by said at least one energy-producing system.

75. A method as recited in claim 74, further comprising transmitting data through a modem as a result of said comparing said estimated magnitude of power with said magnitude of power being produced by said at least one energy-producing system.

76. A method as recited in claim 63, further comprising predicting an estimated quantity of energy which should be being produced by said at least one energy-producing system under prevailing conditions.

77. A method as recited in claim 76, further comprising comparing said estimated quantity of energy with a quantity of energy actually produced by said at least one energy-producing system.

78. A method as recited in claim 77, further comprising transmitting data through a modem as a result of said comparing said estimated quantity of energy with a quantity of energy actually produced by said at least one energy-producing system.

79. A display device comprising:

at least one site facility consumption display area in which an indication of a magnitude of power being consumed by a site facility is displayed, and at least one energy-producing system production display area in which an indication of a magnitude of power being produced by at least one energy-producing system is displayed.

80. A display device as recited in claim 79, wherein said display device comprises a mounting board which schematically indicates flow of power from said energy-producing system to said energy-producing system production display area, from said energy-producing system production display area to said site facility consumption display area or to an external power source, from said external power source to said site facility consumption display area, and from said site facility consumption display area to a power load in said site facility.

81. A display device comprising:

at least one site facility consumption display area in which an indication of energy consumed

by a site facility over a period of time is displayed, and at least one energy-producing system production display area in which an indication of energy produced by at least one energy-producing system over a period of time is displayed.

82. A display device as recited in claim 81, further comprising a first reset button which, when pressed, resets to zero said energy consumed by said site facility over a period of time, and a second reset button which, when pressed, resets to zero said energy produced by said energy-producing system over a period of time.

83. A display device as recited in claim 81, wherein said display device comprises a mounting board which schematically indicates flow of power from said energy-producing system to said energy-producing system production display area, from said energy-producing system production display area to said site facility consumption display area or to an external power source, from said external power source to said site facility consumption display area, and from said site facility consumption display area to a power load in said site facility.

84. A display device comprising:

at least one site facility consumption display area;

at least one energy-producing system production display area; and

a first switch which, when pressed, toggles between a setting where an indication of a magnitude of power being consumed by a site facility is displayed in said site facility consumption display area and a setting where an indication of energy consumed by said site facility over a period of time is displayed in said site facility consumption display area; and

a second switch which, when pressed, toggles between a setting where an indication of a magnitude of power being produced by said energy-producing system is displayed in said energy-producing system production display area and a setting where an indication of energy produced by said energy-producing system over a period of time is displayed in said energy-producing system production display area.

85. A display device as recited in claim 84, further comprising a first reset button which, when pressed, resets to zero said energy consumed by said site facility over a period of time, and a second reset button which, when pressed, resets to zero said energy produced by said energy-producing system over a period of time.

86. A display device as recited in claim 84, wherein said display device comprises a mounting board which schematically indicates flow of power from said energy-producing system to said energy-producing system production display area, from said energy-producing system production display area to said site facility consumption display area or to an external power source, from said external power source to said site facility consumption display area, and from said site facility consumption display area to a power load in said site facility.

87. A method of sensing power in a site facility, comprising:

positioning at least a first transformer around at least one external power line, said at least one external power line electrically connecting at least one main panel bus to at least one external power source, such that said first transformer produces a first signal having a voltage which is proportional to a current passing through said at least one external power line;

positioning at least a second transformer around at least one first internal power line and at least one second internal power line, said at least one first internal power line electrically connecting said at least one main panel bus to at least one energy-producing system bus of at least one energy-producing system, said at least one second internal power line electrically connecting said at least one energy-producing system bus to at least one critical load sub-panel bus, such that said second transformer produces a second signal having a voltage which is proportional to a net current flowing through a combination comprising said at least one first internal power line and said at least one second internal power line; and

positioning at least a third transformer around said at least one first internal power line and said at least one second internal power line, such that said third transformer produces a third signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one first internal power line and said at least one second internal power line.

88. A method as recited in claim 87, further comprising:

positioning at least a fourth transformer around at least a second external power line, said second external power line electrically connecting a second main panel bus to at least one external power source, such that said fourth transformer produces a fourth signal having a voltage which is proportional to a current passing through said second external power line.

89. A method as recited in claim 88, further comprising:

positioning at least a fifth transformer around at least one third internal power line and at least one fourth internal power line, said at least one third internal power line electrically connecting said second main panel bus to a second energy-producing system bus of a second energy-producing system, said at least one fourth internal power line electrically connecting said second energy-producing system bus to a second critical load sub-panel bus, such that said fifth transformer produces a fifth signal having a voltage which is proportional to a net current flowing through a combination comprising said at least one third internal power line and said at least one fourth internal power line; and

positioning at least a sixth transformer around said at least one third internal power line and said at least one fourth internal power line, such that said sixth transformer produces a sixth signal having a voltage which is proportional to said net current flowing through said combination comprising said at least one third internal power line and said at least one fourth internal power line.

90. A monitor comprising:

a first sensor which senses a magnitude of a first net current passing through at least a first power line and which generates a first signal having a voltage which is proportional to said first net current;

a second sensor which senses a magnitude of a second net current passing through at least a second power line and which generates a second signal having a voltage which is proportional to said second net current; and

a transducer comprising at least one circuit in which said first sensor and said second sensor are connected in series.

91. A monitor as recited in claim 90, wherein said first net current is a single current flowing in one direction through a single first power line, and said second net current is a single current flowing in one direction through a single second power line

92. A monitor comprising:

a first sensor which senses a magnitude of power being consumed by a site facility, said site facility comprising at least one main panel bus, at least one external power line electrically connecting said at least one main panel bus to at least one external power source, at least one energy-producing system having at least one energy-producing system bus, at least one first internal power line electrically connecting said at least one main panel bus to said at least one energy-producing system bus;

said first sensor comprising at least one first sub-sensor and at least one second sub-sensor;

said first sub-sensor sensing a current passing through said at least one external power line;

said second sub-sensor sensing a current passing through said at least one first internal power line; and

a second sensor which senses a magnitude of power being produced by said at least one energy-producing system;

said second sensor comprising at least one third sub-sensor, said third sub-sensor sensing said current passing through said at least one first internal power line.

93. A monitor as recited in claim 92, wherein:

said monitor further comprises at least one line voltage line which carries a line voltage signal having a voltage which is proportional to a voltage flowing through said at least one external power line and said at least one first internal power line; and

said monitor further comprises at least one transducer, said at least one transducer comprising at least one circuit in which at least said first transformer and said second transformer are connected in series.

said first sub-sensor comprises at least a first transformer positioned around said at least one external power line, said first transformer producing a first signal having a voltage which is proportional to said current passing through said at least one external power line;

said second sub-sensor comprises at least a second transformer positioned around said at least one first internal power line, said second transformer producing a second signal having a voltage which is proportional to said current flowing through said at least one first internal power line; and

said third sub-sensor comprises at least a third transformer positioned around said at least one first internal power line, said third transformer producing a third signal having a voltage which is proportional to said current flowing through said at least one first internal power line.

94. A monitor as recited in claim 92, wherein said site facility further comprises:

at least a second main panel bus;

at least a second external power line electrically connecting said second main panel bus to at least one external power source; and

at least a second internal power line electrically connecting said energy-producing system to said second main panel.

95. A monitor as recited in claim 94, wherein said two external power lines are connected to opposite poles of a single split-phase external power source, and said two internal power lines are connected to opposite poles of a single split-phase energy-producing system.

96. A method of sensing power in a site facility, comprising:

sensing a magnitude of power being consumed by a site facility by:

sensing a first net current passing through at least one external power line and generating a first signal having a voltage which is proportional to said first current, said at least one external power line electrically connecting at least one main panel bus to at least one external power source,

sensing a second net current passing through at least one first internal power line and generating a second signal having a voltage which is proportional to said second

current, said at least one first internal power line electrically connecting said at least one main panel bus to at least one energy-producing system bus, and

electrically combining said first signal and said second signal in a transducer; and

sensing a magnitude of power being produced by said at least one energy-producing system by:

sensing said second net current passing through said at least one first internal power line.

97. A method as recited in claim 96, wherein said site facility further comprises:

at least a second main panel bus;

at least a second external power line electrically connecting said second main panel bus to at least one external power source, said two external power lines being connected to opposite poles of a single split-phase external power source; and

at least a second internal power line electrically connecting said energy-producing system to said second main panel, said two internal power lines being connected to opposite poles of a single split-phase energy-producing system,

and said method further comprises doubling said second signal.